

**ENERGY-SAVING FOOT BOARD CAPABLE OF PRODUCING  
SOUND AND LIGHT BY VIBRATION**

**BACKGROUND OF THE INVENTION**

**1. Field of the Invention**

5           The present invention relates to a foot board, and more particularly to  
an energy-saving foot board capable of producing sound and light by vibration  
so as to provide an optical or audio effect.

**2. Description of the Related Art**

10           Usually, the indoor or outdoor ground of a building often adopts an  
ornamental floor board to provide a decorative effect. The ornamental floor  
board has various colors and patterns so as to enhance the outer appearance of  
the ground of the building. However, the conventional ornamental floor board  
has a flat surface without providing an additional function, such as the optical  
or audio effect, thereby limiting the versatility of the conventional ornamental  
15 floor board.

**SUMMARY OF THE INVENTION**

          The primary objective of the present invention is to provide an  
energy-saving foot board capable of producing sound and light by vibration so  
as to provide an optical or audio effect.

20           Another objective of the present invention is to provide a foot board,  
wherein the light emitting members emit light outward from the main body

when a person's one foot steps on the main body, thereby greatly enhancing the aesthetic quality of the foot board.

A further objective of the present invention is to provide a foot board, wherein the program control circuit of the controller transmits a signal to drive  
5 the audio drive circuit of the sound emitter, so that the sound emitter emits sound outward, thereby enhancing the amusement effect of the foot board.

In accordance with the present invention, there is provided a foot board, comprising:

- a main body;
- 10 a plurality of light emitting members mounted on the main body;
- a controller mounted on the main body and having a first side electrically connected to the light emitting members by conducting wires and a second side electrically connected to a power supply; and
- a trigger mounted on the main body and connected to the controller  
15 to control operation of the controller.

Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

20 Fig. 1 is a partially exploded perspective view of a foot board in accordance with the preferred embodiment of the present invention;

Fig. 2 is an exploded perspective assembly view of a foot board in accordance with the preferred embodiment of the present invention;

Fig. 3 is a top plan cross-sectional assembly view of the foot board taken along line 3-3 as shown in Fig. 1;

5 Fig. 4 is a schematic operational view of the foot board as shown in Fig. 1 in use;

### **DETAILED DESCRIPTION OF THE INVENTION**

Referring to the drawings and initially to Figs. 1-3, a foot board in accordance with the preferred embodiment of the present invention comprises  
10 a main body 1, a plurality of light emitting members 2 mounted on the main body 1, a controller 3 mounted on the main body 1 and having a first side electrically connected to the light emitting members 2 by conducting wires 30 and a second side electrically connected to a power supply, and a trigger 4 mounted on the main body 1 and connected to the controller 3 to control  
15 operation of the controller 3.

Preferably, each of the light emitting members 2 is a light emitting diode (LED). The main body 1 has a plurality of transparent portions 10 each corresponding to a respective one of the light emitting members 2.

As shown in Figs. 2 and 3, the controller 3 includes a program  
20 control circuit 31, a trigger circuit 32 connected to the program control circuit 31, and an auto-switching circuit 33 having a first side connected to the program control circuit 31 and a second side connected to the power supply.

Preferably, the power supply contains a solar battery set 37, a dry battery set 38 and an electric power supplier 39.

The controller 3 further includes a signal amplifying circuit 34 connected between the trigger circuit 32 and the trigger 4. The signal  
5 amplifying circuit 34 includes a PNP transistor Q2. Thus, the trigger circuit 32 of the controller 3 is triggered by the trigger 4 through the signal amplifying circuit 34.

The controller 3 further includes a photo control circuit 35 connected between the trigger circuit 32 and the trigger 4. The photo control circuit 35 is  
10 a photo sensitive control member. Thus, when the light source of the foot board is disposed at a sufficient state, the trigger circuit 32 of the controller 3 is not triggered by the trigger 4 by control of the photo control circuit 35 so as to save the electrical energy.

The controller 3 further includes a drive circuit 36 connected  
15 between the program control circuit 31 and the light emitting members 2. The drive circuit 36 includes a NPN transistor Q3 and an integrated circuit IC2 (CDT3143). Thus, the drive circuit 36 drives the light emitting members 2 to emit light according to the predetermined working mode.

The foot board further comprises a sound emitter 5 mounted on the  
20 main body 1 and connected to the controller 3 by an audio drive circuit 51. The audio drive circuit 51 includes an audio circuit 511, and an audio amplifying circuit 512. Thus, the audio signal is amplified by the NPN transistor Q4 of the

audio amplifying circuit 512 and is then transmitted to the sound emitter 5, so that the sound emitter 5 emits sound outward.

In practice, when a person's one foot steps on the main body 1, a vibration is produced to trigger and start the trigger 4 which emits a signal to trigger the trigger circuit 32 of the controller 3 which connects the light emitting members 2 to the power supply, so that the light emitting members 2 emit light outward according to the predetermined working mode so as to light successively or to blink. At this time, the controller 3 connects the sound emitter 5, so that the sound emitter 5 emits sound outward.

In operation, the signal transmitted from the trigger 4 is amplified by the PNP transistor Q2 of the signal amplifying circuit 34. Then, the amplified signal is transmitted into the trigger circuit 32, so that the central integrated circuit IC1 (CDT3143) of the program control circuit 31 of the controller 3 performs a level transfer to enter the working state to drive the auto-switching circuit 33 to connect the power supply. At the same time, the program control circuit 31 transmit a signal to drive the drive circuit 36, so that the drive circuit 36 drives the light emitting members 2 to emit light according to the predetermined working mode.

Accordingly, the light emitting members 2 emit light outward from the main body 1 when a person's one foot steps on the main body 1, thereby greatly enhancing the aesthetic quality of the foot board. In addition, the program control circuit 31 transmits a signal to drive the audio drive circuit 51

of the sound emitter 5, so that the sound emitter 5 emits sound outward, thereby enhancing the amusement effect of the foot board.

Referring to Fig. 4, a plurality of foot boards are serially connected with each other to enhance the versatility of the foot board.

5           Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claim or claims will cover such modifications and variations that fall within the  
10   true scope of the invention.